

## **IN THE CLAIMS**

Please substitute the following listing of claims for the previous listing of claims.

1. (Original) A substrate support comprising:
  - (a) a support structure; and
  - (b) a coating on the support structure, the coating comprising a carbon-hydrogen network, and the coating having a contact surface comprising a coefficient of friction of less than about 0.3 and a hardness of at least about 8 GPa, whereby the contact surface of the coating is capable of reducing abrasion and contamination of a substrate that contacts the contact surface.
2. (Original) A support according to claim 1 wherein the coating comprises a diamond-like material.
3. (Original) A support according to claim 2 wherein the diamond-like material comprises diamond-like carbon.
4. (Original) A support according to claim 2 wherein the diamond-like material comprises a diamond-like nanocomposite having networks of (i) carbon and hydrogen, and (ii) silicon and oxygen.
5. (Original) A support according to claim 2 wherein the diamond-like material comprises a resistivity of from about  $10^4$  Ohm·cm to about  $10^8$  Ohm·cm.
6. (Original) A support according to claim 5 wherein the diamond-like material comprises from about 0.1 atom % to about 10 atom % of a metal additive, whereby the metal additive changes the resistivity of the coating.

7. (Currently amended) A support according to claim 1 wherein the support structure comprises:

- (((i))a) a dielectric covering an electrode; and
- (((ii))b) a plurality of mesas on the dielectric, the mesas comprising the coating with the contact surface thereon.

8. (Original) A support according to claim 7 wherein the dielectric comprises a ceramic.

9. (Original) A support according to claim 7 further comprising a metal-containing adhesion layer between the dielectric and the coating of the mesas.

10. (Original) A support according to 1 wherein the support structure comprises a heat exchanger comprising at least one of (i) a heater, and (ii) conduits for passing a heat exchange fluid therethrough.

11. (Withdrawn)

12. (Original) A substrate support comprising:

- (a) a dielectric covering an electrode; and
- (b) a plurality of mesas on the dielectric, the mesas comprising a coating of a diamond-like material over a titanium layer.

13. (Original) A support according to claim 12 wherein the coating comprises a coefficient of friction of less than about 0.3 and a hardness of at least about 8 GPa.

14. (Original) A support according to claim 12 wherein the coating comprises a thickness of from about 1 to about 20 microns.

15. (Original) A support according to claim 14 wherein the titanium layer comprises a thickness of from about 0.25 to about 4 microns.

16. (Original) A support according to claim 12 wherein the diamond-like material comprises a diamond-like nanocomposite having networks of (i) carbon and hydrogen, and (ii) silicon and oxygen.

17. (Original) A support according to claim 12 wherein the diamond-like material comprises diamond-like carbon.

18. (Original) A support according to claim 12 wherein the diamond-like material comprises a metal additive.

19. (Original) A support according to claim 12 wherein the dielectric comprises AlN or Al<sub>2</sub>O<sub>3</sub>.

20. (Currently amended) A support according to claim 12 wherein the diamond-like material is co-deposited with a the metal additive by a process combining physical vapor deposition of the metal additive in a plasma enhanced chemical vapor deposition environment.

21-57. (Cancel)

58. (New) A substrate support comprising a support structure comprising:

- (a) a dielectric covering an electrode;
- (b) a plurality of mesas on the dielectric, the mesas comprising a coating comprising a carbon-hydrogen network, the coating having a contact surface comprising a coefficient of friction of less than about 0.3 and a hardness of at least about 8 GPa, whereby the contact surface of the coating is capable of reducing abrasion and contamination of a substrate that contacts the contact surface; and
- (c) a metal-containing adhesion layer between the dielectric and the coating of the mesas.

59. (New) A support according to claim 58 wherein the coating comprises a diamond-like material.

60. (New) A support according to claim 59 wherein the diamond-like material comprises diamond-like carbon.

61. (New) A support according to claim 59 wherein the diamond-like material comprises a diamond-like nanocomposite having networks of (i) carbon and hydrogen, and (ii) silicon and oxygen.

62. (New) A support according to claim 59 wherein the diamond-like material comprises a resistivity of from about  $10^4$  Ohm·cm to about  $10^8$  Ohm·cm.

63. A support according to claim 62 wherein the diamond-like material comprises from about 0.1 atom % to about 10 atom % of a metal additive, whereby the metal additive changes the resistivity of the coating.

64. (New) A support according to claim 58 wherein the dielectric comprises a ceramic.

65. (New) A substrate support comprising:  
(a) a dielectric covering an electrode; and  
(b) a plurality of mesas on the dielectric, the mesas comprising a coating of a diamond-like material over a titanium layer comprising a thickness of from about 0.25 to about 4 microns, the coating comprising a thickness of from about 1 to about 20 microns.

66. (New) A support according to claim 65 wherein the diamond-like material comprises diamond-like carbon.

67. (New) A support according to claim 65 wherein the diamond-like material comprises a diamond-like nanocomposite having networks of (i) carbon and hydrogen, and (ii) silicon and oxygen.

68. (New) A support according to claim 65 wherein the coating comprises a coefficient of friction of less than about 0.3 and a hardness of at least about 8 GPa.

69. (New) A support according to claim 65 wherein the dielectric comprises a ceramic.

70. (New) A substrate support comprising:
- (a) a dielectric covering an electrode; and
  - (b) a plurality of mesas on the dielectric, the mesas comprising a coating of a diamond-like material over a titanium layer, the diamond-like material comprising a diamond-like nanocomposite having networks of (i) carbon and hydrogen, and (ii) silicon and oxygen.
71. (New) A support according to claim 70 wherein the coating comprises a coefficient of friction of less than about 0.3 and a hardness of at least about 8 GPa.
72. (New) A support according to claim 70 wherein the diamond-like material comprises a resistivity of from about  $10^4$  Ohm·cm to about  $10^8$  Ohm·cm.
73. (New) A support according to claim 72 wherein the diamond-like material comprises from about 0.1 atom % to about 10 atom % of a metal additive, whereby the metal additive changes the resistivity of the coating.
74. (New) A substrate support comprising:
- (a) a dielectric covering an electrode; and
  - (b) a plurality of mesas on the dielectric, the mesas comprising a coating of a diamond-like material over a titanium layer, the diamond-like material comprising a metal additive.
75. (New) A support according to claim 74 wherein the coating comprises a coefficient of friction of less than about 0.3 and a hardness of at least about 8 GPa.

76. (New) A support according to claim 74 wherein the coating comprises a thickness of from about 1 to about 20 microns.

77. (New) A support according to claim 74 wherein the diamond-like material comprises a diamond-like nanocomposite having networks of (i) carbon and hydrogen, and (ii) silicon and oxygen.

78. (New) A substrate support comprising:  
(a) a dielectric covering an electrode, the dielectric comprising AlN or Al<sub>2</sub>O<sub>3</sub>; and  
(b) a plurality of mesas on the dielectric, the mesas comprising a coating of a diamond-like material over a titanium layer.

79. (New) A support according to claim 78 wherein the coating comprises a coefficient of friction of less than about 0.3 and a hardness of at least about 8 GPa.

80. (New) A support according to claim 78 wherein the coating comprises a thickness of from about 1 to about 20 microns.

81. (New) A support according to claim 78 wherein the diamond-like material comprises a diamond-like nanocomposite having networks of (i) carbon and hydrogen, and (ii) silicon and oxygen.

82. (New) A substrate support comprising:
- (a) a dielectric covering an electrode; and
  - (b) a plurality of mesas on the dielectric, the mesas comprising a coating of a diamond-like material over a titanium layer, the diamond-like material being co-deposited with a metal additive by a process combining physical vapor deposition of the metal additive in a plasma enhanced chemical vapor deposition environment.
83. (New) A support according to claim 82 wherein the coating comprises a coefficient of friction of less than about 0.3 and a hardness of at least about 8 GPa.
84. (New) A support according to claim 82 wherein the coating comprises a thickness of from about 1 to about 20 microns.
85. (New) A support according to claim 82 wherein the diamond-like material comprises a diamond-like nanocomposite having networks of (i) carbon and hydrogen, and (ii) silicon and oxygen.